WHAT IS CLAIMED IS:

1. A control apparatus of automatic transmission including plural friction engaging elements configures plural shift ranges based on combinations of each friction engaging element being in engaging or disengaging condition and a controlling unit for controlling the friction engaging elements to be in engaging or disengaging condition by controlling a hydraulic pressure applied thereto, comprising:

a switching means for switching the condition of the controlling unit to a learning mode for learning a stand-by hydraulic pressure value after a pre-charge;

a means for determining a stand-by hydraulic pressure value activated upon the learning mode for determining the stand-by hydraulic pressure value based on input values indicating at least a turbine rotation number,

wherein

the means for determining a stand-by hydraulic pressure value, on condition that a vehicle is not traveling, and the controlling unit is switched to the leaning mode, includes:

a means for moving the friction engaging element toward engaging side by controlling the hydraulic pressure applied to the friction engaging element while the stand-by hydraulic pressure value is set to be gradually increased with predetermined time intervals by the controlling unit when an input shaft rotating number of the automatic transmission is constant;

a means for measuring and memorizing the input values with predetermined intervals in a predetermined determining cycle;

a means for calculating and memorizing a current differential between a current input value within the predetermined determining cycle and another input value measured before the current input value within the predetermined determining cycle; and

a means for learning and setting a current hydraulic pressure as the stand-by hydraulic pressure value when a change of the input value due to a decline of the turbine rotation number within the determining cycle fulfills a

predetermined noise eliminating condition and the current differential in the determining cycle and a old differential in a former determining cycle exceed a predetermined threshold, further, it is confirmed that the turbine rotation number is decreased based on both differentials.

2. A control apparatus of automatic transmission according to claim 1 further comprising an input means for detecting an engine rotation number, wherein the means for determining a stand-by hydraulic pressure value uses a rotation number differential between the turbine rotation number and the engine rotation number as the input value.

3. A method for setting the stand-by hydraulic pressure value after a pre-charge for an automatic transmission including plural friction engaging elements configures plural shift ranges based on combinations of each friction engaging element being in engaging or disengaging condition, a controlling unit for controlling the friction engaging elements to be in engaging or disengaging condition by controlling a hydraulic pressure applied thereto, comprising:
a process for determining a stand-by hydraulic pressure value based on input values indicating at least a turbine rotation number, on condition that a vehicle is not traveling;
a process for moving the friction engaging element toward engaging side by controlling the hydraulic pressure applied to the friction engaging element while the stand-by hydraulic pressure value is set to be gradually increased with predetermined time intervals by the controlling unit when an input shaft rotating number of the automatic transmission is constant;
wherein
the process for determining the pre-charge time includes:
a process for measuring and memorizing the input values with predetermined intervals in a predetermined determining cycle;
a process for calculating and memorizing a current differential between a current input value within the predetermined determining cycle and another

input value measured before the current input value within the predetermined determining cycle; and

a process for learning and setting a current hydraulic pressure as the stand-by hydraulic pressure value when a change of the input value due to a decline of the turbine rotation number within the determining cycle fulfills a predetermined noise eliminating condition and the current differential in the determining cycle and a old differential in a former determining cycle exceed a predetermined threshold, further, it is confirmed that the turbine rotation number is decreased based on both differentials.

4. A method for setting a stand-by hydraulic pressure value according to claim 3, wherein the process for determining a stand-by hydraulic pressure value uses a rotation number differential between the turbine rotation number and the engine rotation number as the input value.